UNITED STATES DEPARTMENT OF COMMERCE United States Patent and Trademark Office Address: COMMISSIONER FOR PATENTS P.O. Box 1450 Alexandria, Virginia 22313-1450 www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/576,299	04/19/2006	Motoshige Sumino	WKP-003	4456
20374 KUDOVCIK 8	7590 07/23/2007	•	EXAMINER	
SUITE 710			NWAONICHA, CHUKWUMA O	
900 17TH STF WASHINGTO			ART UNIT	PAPER NUMBER
	· · · · · · · · · · · · · · · · · · ·		1621	
	· ·			
		•	MAIL DATE	DELIVERY MODE
			07/23/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

·	Application No.	Applicant(s)				
Office Action Commons	10/576,299	SUMINO ET AL.				
Office Action Summary	Examiner	Art Unit				
	Chukwuma O. Nwaonicha	1621				
The MAILING DATE of this communication appropriate appropriate for Reply	ears on the cover sheet with the c	orrespondence address				
A SHORTENED STATUTORY PERIOD FOR REPLY WHICHEVER IS LONGER, FROM THE MAILING DA  - Extensions of time may be available under the provisions of 37 CFR 1.13 after SIX (6) MONTHS from the mailing date of this communication.  - If NO period for reply is specified above, the maximum statutory period w  - Failure to reply within the set or extended period for reply will, by statute, Any reply received by the Office later than three months after the mailing earned patent term adjustment. See 37 CFR 1.704(b).	TE OF THIS COMMUNICATION 6(a). In no event, however, may a reply be timil apply and will expire SIX (6) MONTHS from cause the application to become ABANDONE	N. nely filed the mailing date of this communication. D (35 U.S.C. § 133).				
Status						
1) Responsive to communication(s) filed on 19 April 2006.						
· ·						
, <u> </u>	Since this application is in condition for allowance except for formal matters, prosecution as to the merits is					
,	closed in accordance with the practice under <i>Ex parte Quayle</i> , 1935 C.D. 11, 453 O.G. 213.					
Disposition of Claims						
4)⊠ Claim(s) <u>1-8</u> is/are pending in the application.						
4a) Of the above claim(s) is/are withdrawn from consideration.						
5) Claim(s) is/are allowed.						
6)⊠ Claim(s) <u>1-8</u> is/are rejected.						
7) Claim(s) is/are objected to.	7) Claim(s) is/are objected to.					
8) Claim(s) are subject to restriction and/or election requirement.						
Application Papers						
9) The specification is objected to by the Examiner.						
10) ☐ The drawing(s) filed on is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.						
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).						
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).						
11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.						
Priority under 35 U.S.C. § 119						
12)⊠ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).						
a) ⊠ All b) □ Some * c) □ None of:						
1.⊠ Certified copies of the priority documents have been received.						
2. Certified copies of the priority documents have been received in Application No						
3. Copies of the certified copies of the priority documents have been received in this National Stage						
application from the International Bureau (PCT Rule 17.2(a)).						
* See the attached detailed Office action for a list of the certified copies not received.						
Attachment(s)						
<ol> <li>Notice of References Cited (PTO-892)</li> <li>Notice of Draftsperson's Patent Drawing Review (PTO-948)</li> </ol>	4) Ll Interview Summary Paper No(s)/Mail Da					
3) Information Disclosure Statement(s) (PTO/SB/08)  5) Notice of Informal Patent Application						
Paper No(s)/Mail Date 6) L Other:						

Art Unit: 1621

#### **DETAILED ACTION**

#### **Current Status**

1. Claims 1-8 are pending in the application.

#### **Priority**

Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d).

#### Specification

The abstract of the disclosure is objected to because it does not describe the subject matter. Correction is required. See MPEP § 608.01(b).

Applicant is reminded of the proper content of an Abstract of the Disclosure.

In chemical patent abstracts for compounds or compositions, the general nature of the compound or composition should be given as well as its use, *e.g.*, "The compounds are of the class of alkyl benzene sulfonyl ureas, useful as oral anti-diabetics." Exemplification of a species could be illustrative of members of the class. For processes, the type reaction, reagents and process conditions should be stated, generally illustrated by a single example unless variations are necessary.

Complete revision of the content of the abstract is required on a separate sheet.

### Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Art Unit: 1621

The factual inquiries set forth in *Graham* v. *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.

- 2. Ascertaining the differences between the prior art and the claims at issue.
- 3. Resolving the level of ordinary skill in the pertinent art.
- 4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Watanabe et al., {US 5,633,409} in view of Dektar et al., {US 4,980,492}.

Applicants claim a method for producing a triarylsulfonium salt represented by the general formula 1 by reacting a diaryl sulfoxide and an aryl Grignard reagent (RMgX) in the presence of an activator and then reacting the resultant reaction mixture with a strong acid (HA); wherein all the variables are as defined in the claims.

formula 1

Art Unit: 1621

## Determination of the scope and content of the prior art (M.P.E.P. §2141.01)

Watanabe et al. teach a method for producing a triarylsulfonium salt (scheme 1) by reacting a diaryl sulfoxide and an aryl Grignard reagent (RMgX) in the presence of an activator (halotriamethylsilane).

scheme 1

# Ascertainment of the difference between the prior art and the claims (M.P.E.P.. §2141.02)

Watanabe et al. process for producing a triarylsulfonium salt differs from the instantly claimed methord in that applicants' process specifically employ a strong acid (HA) in the second step while Watanabe et al. is silent about the use of strong acid in the second step. However, the secondary reference of Dektar et al. teaches a process that employed strong acid in the second step. Specifically, Dektar et al. teach a process for preparing a triarylsulfonium salt comprising reacting a diaryl sulfoxide and an aryl Grignard reagent (RMgX) in the presence of an acid and then reacting the resultant

Art Unit: 1621

reaction mixture with a strong acid (ZMF<sub>6</sub>); wherein M is a phosphorus atom, an arsenic atom or an antimony atom, (scheme 2).

nArMgX + (Ar)<sub>2</sub>SO 
$$\longrightarrow$$
 (Ar)<sub>3</sub>SOMgX  $\xrightarrow{2HX}$  (Ar)<sub>3</sub>S<sup>+</sup>X + MgX<sub>2</sub> + H<sub>2</sub>O (Ar)<sub>3</sub>S<sup>+</sup>X + ZMF<sub>6</sub>  $\longrightarrow$  (Ar)<sub>3</sub>S<sup>+</sup>MF<sub>6</sub><sup>-</sup> + ZX scheme 2

## <u>Finding of prima facie obviousness--rational and motivation (M.P.E.P.. §2142-2143)</u>

The instantly claimed method for producing a triarylsulfonium salt would have been suggested to one of ordinary skill because one of ordinary skill wishing to obtain triarylsulfonium salt is taught to employ the processes of Watanabe et al. and Dektar et al.

One of ordinary skill in the art would have a reasonable expectation of success in practicing the instant invention by varying the reactants from the teachings of Watanabe et al. and Dektar et al. to arrive at the instantly claimed process for preparing triarylsulfonium salt. Said person would have been motivated to practice the teaching of the references cited because they demonstrate that triarylsulfonium salt are useful in industrial applications. The Examiner notes that replacing one catalyst with another catalyst in a chemical reaction is a well-known chemical practice to optimize the process efficiency of the system and does not constitute a patentable distinction. Therefore, the instantly claimed invention would therefore have been obvious to one of ordinary skill in the art.

Art Unit: 1621

No Claim is allowed.

Any inquiry concerning this communication or earlier communications from the

Page 6

examiner should be directed to Chukwuma O. Nwaonicha whose telephone number is

571-272-2908. The examiner can normally be reached on Monday thru Friday, 8:30am

to 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Yvonne (Bonnie) Eyler can be reached on 571-272-0871. The fax phone

number for the organization where this application or proceeding is assigned is 571-

273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

Chukwuma O. Nwaonicha, Ph.D.

Patent Examiner

Art Unit: 1621

Supervisory Patent Examiner,

**Technology Center 1600**